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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/586,410	07/18/2006	Andreas Senf	293252US0PCT	3136

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EXAMINER	
CHUNG, RAYMOND	
ART UNIT	PAPER NUMBER
4145	

NOTIFICATION DATE	DELIVERY MODE
03/26/2008	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No.	Applicant(s)	
	10/586,410	SENF ET AL.	
	Examiner	Art Unit	
	RAYMOND CHUNG	4145	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *13-24* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *13-24* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *20060718*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Objections

1. Claim 23 is objected to because of the following informalities:

The instant claim recites "for treatment textile". This phrase is unclear. Correction to "for treatment of a textile" is suggested.

Appropriate correction is required.

Claim Rejections - 35 USC § 101

2. 35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

3. Claim 23 and 24 is rejected under 35 U.S.C. 101 because claimed recitation of a method of using, without setting forth any steps involved in the process, results in an improper definition of a process, i.e., results in a claim which is not a proper process claim under 35 U.S.C. 101. See for example *Ex parte Dunki*, 153 USPQ 678 (Bd.App. 1967) and *Clinical Products, Ltd.* v. *Brenner*, 255 F. Supp. 131, 149 USPQ 475 (D.D.C. 1966).

Claim Rejections - 35 USC § 112

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claims 13-24 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

With regards to claims 13 and 18, the instant claims recite percentages "by weight" in parts a1-a4. The instant claims are indefinite because the weight to which the weights of the individual monomers are compared is not indicated and would be unclear to one of ordinary skill in the art. The weights of the individual monomers could be compared to the weight of the copolymer or the weight of the composition containing the copolymer.

With regards to claim 23 and 24, the instant claims are drawn to a method of using a formulation. Since the claim does not set forth any steps involved in the method/process, it is unclear what method/process applicant is intending to encompass. A claim is indefinite where it merely recites a method of using without any active, positive steps delimiting how the formulation is actually used.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

7. The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

8. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

9. Claims 13-24 rejected under 35 U.S.C. 103(a) as being unpatentable over Ullmann's Encyclopedia of Industrial Chemistry (Textile Auxiliaries to Tin, Tin Alloys, and Tin Compounds; hereafter reffered to as "Ullmann's") in view of Wacker-Chemie, GmbH (GB 1 228 799, hereafter referred to as "Wacker-Chemie").

With regards to claims 13 and 14, Ullmann's teaches a process for treating a textile, which comprises treating said textile (P25, first paragraph, "polyamide yarn sized" would indicate treating the yarn) with (a) at least one alkali metal or ammonium salt of a copolymer obtainable by copolymerization of

(a1) (meth)acrylic acid (P25, left column, top structure, R^1=H, CH_3)

(a2) (meth)acrylonitrile (P25, left column, top structure, R^1=H, CH_3),

(a3) at least one comonomer of the general formula I (P25, left column, top structure, R^1=H, CH_3),

(a4) from 0% to 20% by weight of at least one amide of the general formula II where R^1, R^2, R^4 and R^5 are each selected from hydrogen, branched C_1-C_{10}-alkyl and unbranched C_1-C_{10}-alkyl, R^6 and R^7 are each selected from hydrogen, branched C_1-C_{10}-alkyl and unbranched C_1-C_{10}-alkyl, or R^6 and R^7 combine to form C_2-C_{10}-alkylene, R^3 is selected from branched C^1-C^{10}-alkyl and unbranched C_1-C_{10}-alkyl (P25, left column, top structure, no amide listed would indicate 0% amide),

(d) and water (P25, left column, second paragraph, L3-4, usually produced as a 25% aqueous solution).

However, the reference does not teach the process comprising treating a textile with (b) at least one polysiloxane, (c) at least one solid material based on silicon dioxide, or the process wherein said treating is effected in the presence of (e) at least one protective colloid.

Wacker-Chemie teaches using a mixture of an organopolysiloxane and silicon dioxide as anti-foaming agents (P1/L28-29, see also P1/L81) in the presence of a protective colloid (P2/L96-97).

Ullmann's and Wacker-Chemie disclose analogous inventions directed towards sizing agents and defoaming additives. Ullmann's teaches that sizing additives, such as

silicone oils, can be added as defoamers when sizing agents or wetting agents tending to produce foam are used (see Ullmann's, P26, right column, paragraph 4). Therefore, one of ordinary skill in the art at the time of invention would have modified the sizing composition taught by Ullmann's with the organopolysiloxane and silicon dioxide as well protective colloid taught by Wacker-Chemie for the purpose of producing a sizing composition that is less susceptible to foaming as suggested by Ullmann's.

Since the instant specification is silent to unexpected results, the weight percentages of (meth)acrylic acid and the comonomer of general formula 1 are not considered to confer patentability to the claim. As the hardness of the sizing film is a variable that can be modified by adjusting the amount of (meth)acrylic acid and the comonomer of general formula 1 present in the composition, the weight percentages of (meth)acrylic acid and the comonomer of general formula 1 would have been considered a result effective variable by one having ordinary skill in the art at the time the invention was made. As such, without showing unexpected results, the claimed weight percentage cannot be considered critical. Accordingly, one of ordinary skill in the art at the time the invention was made would have optimized, by routine experimentation, the weight percentages of (meth)acrylic acid and the comonomer of general formula 1 to obtain the desired film hardness as suggested by Ullmann's (P24, right column, second paragraph, lines 7-9) (*In re Boesch*, 617 F.2d. 272, 205 USPQ 215 (CCPA 1980)), since it has been held that where the general conditions of the claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. (*In re Aller*, 105 USPQ 223).

Since the instant specification is silent to unexpected results, the weight percentage of acrylonitrile is not considered to confer patentability to the claim. As elasticity and abrasion resistance are variables that can be modified by adjusting the amount of acrylonitrile present in the composition, the weight percentage of acrylonitrile would have been considered a result effective variable by one having ordinary skill in the art at the time the invention was made. As such, without showing unexpected results, the claimed weight percentage cannot be considered critical. Accordingly, one of ordinary skill in the art at the time the invention was made would have optimized, by routine experimentation, the weight percentage of acrylonitrile to obtain the desired film elasticity and abrasion resistance as suggested by Ullmann's (P24, right column, second paragraph, lines 9-10) (*In re Boesch*, 617 F.2d. 272, 205 USPQ 215 (CCPA 1980)), since it has been held that where the general conditions of the claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. (*In re Aller*, 105 USPQ 223).

With regards to claim 15 and 17, while modified Ullmann's teaches the process set forth above wherein at least one alkali metal or ammonium salt of a copolymer (a) and at least one polysiloxane (b) are used, the reference does not teach a dynamic viscosity in the range from 30 to 1500 mPa-s for copolymer (a) and does not teach a dynamic viscosity in the range from 100 to 2000 mPa-s for polysiloxane (b).

Since the instant specification is silent to unexpected results, the dynamic viscosity is not considered to confer patentability to the claim. As the rheology ot the sizing composition containing copolymer (a) and polysiloxane (b) is a variable that can

be modified by adjusting the dynamic viscosities of copolymer (a) and polysiloxane (b), the dynamic viscosites of copolymer (a) and polysiloxane (b) would have been considered result effective variables by one having ordinary skill in the art at the time the invention was made. As such, without showing unexpected results, the claimed dynamic viscosities cannot be considered critical. Accordingly, one of ordinary skill in the art at the time the invention was made would have optimized, by routine experimentation, the dynamic viscosities of copolymer (a) and polysiloxane (b) to obtain the desired rheology for the composition containing copolymer (a) and polysiloxane (b) (*In re Boesch*, 617 F.2d. 272, 205 USPQ 215 (CCPA 1980)), since it has been held that where the general conditions of the claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. (*In re Aller*, 105 USPQ 223).

With regards to claim 16, modified Ullmann's teaches the process set forth above wherein at least one solid material based on silicon dioxide (c) is a pyrogenic silica gel (Wacker-Chemie, P1/L81-82).

With regards to claims 18 and 19, Ullmann's teaches an aqueous formulation (Ullmann's, P25, left column, second paragraph, L3-4, usually produced as a 25% aqueous solution) comprising (a) at least one alkali metal or ammonium salt of a copolymer obtainable by copolymerization of

(a1) from 1% to 20% by weight of (meth)acrylic acid (Ullmann's, P25, left column, top structure, R^1=H, CH_3),

(a2) from 2% to 20% by weight of (meth)acrylonitrile (Ullmann's, P25, left column, top structure, R^1=H, CH_3),

(a3) from 30% to 80% by weight of at least one comonomer of the general formula I (Ullmann's, P25, left column, top structure, R^1=H, CH_3),

(a4) from 0% to 20% by weight of at least one amide of the general formula II where where R^1, R^2, R^4 and R^5 are each selected from hydrogen, branched C_1-C_{10}-alkyl and unbranched C_1-C_{10}-alkyl, R^6 and R^7 are each selected from hydrogen, branched C_1-C_{10}-alkyl and unbranched C_1-C_{10}-alkyl, or R^6 and R^7 combine to form C_2-C_{10}-alkylene, R^3 is selected from branched C^1-C^{10}-alkyl and unbranched C_1-C_{10}-alkyl (Ullmann's, P25, left column, top structure, no amide listed would indicate 0% amide), and

(b) at least one alkali metal or ammonium salt of a copolymer (Ullmann's, P24, right column, schematic structure).

However, the reference does not teach the process comprising treating a textile with (c) at least one polysiloxane, (d) at least one solid material based on silicon dioxide, or the process wherein said treating is effected in the presence of (e) at least one protective colloid.

Wacker-Chemie teaches using a mixture of an organopolysiloxane and silicon dioxide as anti-foaming agents (P1/L28-29, see also P1/L81) in the presence of a protective colloid (P2/L96-97).

Ullmann's and Wacker-Chemie disclose analogous inventions directed towards sizing agents and defoaming additives. Ullmann's teaches that sizing additives,

such as silicone oils, can be added as defoamers when sizing agents or wetting agents tending to produce foam are used (see Ullmann's, P26, right column, paragraph 4). Therefore, one of ordinary skill in the art at the time of invention would have modified the sizing composition taught by Ullmann's with the organopolysiloxane and silicon dioxide as well protective colloid taught by Wacker-Chemie for the purpose of producing a sizing composition that is less susceptible to foaming as suggested by Ullmann's.

With regards to claim 21, modified Ullmann's teaches the formulation set forth above wherein at least one solid material based on silicon dioxide (c) is a pyrogenic silica gel (Wacker-Chemie, P1/L81-82).

With regards to claim 20 and 22, while modified Ullmann's teaches the process set forth above wherein at least one alkali metal or ammonium salt of a copolymer (a) and at least one polysiloxane (b) are used, the reference does not teach a dynamic viscosity in the range from 40 to 800 mPa-s for copolymer (a) and does not teach a dynamic viscosity in the range from 100 to 200 mPa-s for polysiloxane (b).

Since the instant specification is silent to unexpected results, the dynamic viscosity is not considered to confer patentability to the claim. As the rheology ot the sizing composition containing copolymer (a) and polysiloxane (b) is a variable that can be modified by adjusting the dynamic viscosities of copolymer (a) and polysiloxane (b), the dynamic viscosites of copolymer (a) and polysiloxane (b) would have been considered result effective variables by one having ordinary skill in the art at the time the invention was made. As such, without showing unexpected results, the claimed dynamic viscosities cannot be considered critical. Accordingly, one of ordinary skill in

the art at the time the invention was made would have optimized, by routine experimentation, the dynamic viscosities of copolymer (a) and polysiloxane (b) to obtain the desired rheology for the composition containing copolymer (a) and polysiloxane (b) (*In re Boesch*, 617 F.2d. 272, 205 USPQ 215 (CCPA 1980)), since it has been held that where the general conditions of the claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. (*In re Aller*, 105 USPQ 223).

With regards to claim 23, modified Ullmann's teaches a method of using the formulation set forth above for treating textile (P25, first paragraph, "polyamide yarn sized" would indicate treating the yarn).

With regards to claim 24, modified Ullmann's teaches a process for treating a textile by using a formulation set forth above (P25, first paragraph, "polyamide yarn sized" would indicate treating the yarn).

Conclusion

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to RAYMOND CHUNG whose telephone number is (571)270-3881. The examiner can normally be reached on Monday-Thursday, 8am-5:30pm EST, Alt. Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Basia Ridley can be reached on (571) 272-1453. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/R.C./
14 March 2008

/Basia Ridley/
Supervisory Patent Examiner, Art Unit 4145